

## Vector Works Fundamentals - Event and Stage Design

### Course Outline

The three day course is designed to have a break of at least a day between course days to ensure time for information to sink as well as developing skills through homework exercises.

In between the course days students are able to contact the instructor and are also given access to the YouTube library with many walk throughs that cover topics from the lessons at [videos.pcces.com.au](https://videos.pcces.com.au).

### Who Is this Course For?

This course is targeted towards people with existing experience with Vector Works who want to discover more efficient ways of drawing and learn the concepts behind how Vector Works is designed to be used. For some this will involve some re-training in how they currently perform tasks and in many cases trying to break bad habits.

The course is targeted to the events industry and will cover the main aspects of drawing an event from scratch. Prior to the course students are asked to complete a survey that will allow the instructor to tailor the course to suit the needs of the majority in the class.

### What to Bring?

A willingness to learn is essential and whilst we understand that it's important to stay in touch with the rest of the world please do your best to ignore any phone calls that aren't critical until designated break periods. Apart from that you will need:

- ▶ A working laptop or computer with Vectorworks 2015 or later installed prior to Day 1. The spotlight add-on will be required for the final day of the course, additionally we advise that you download the fundamental libraries and spotlight libraries at a minimum.
- ▶ A valid Vectorworks License key or dongle - evaluation version is totally fine just remember you can't save so screenshot your work often for your records. 30-day demo is also acceptable.
- ▶ An external mouse is advised to increase productivity. External keyboards are totally optional.

Computers can be supplied at the training venue at an additional cost.

Secondary screens will be supplied, although if possible please bring HDMI adaptors suited to your laptop make/model.

### Contact Us

If you have further questions don't hesitate to ask us questions.

Email: [james@pcc.es](mailto:james@pcc.es)

Phone: 0401199331

## Day 1 - Morning

Introduction and History  
Differences in Workspaces  
Preferences

- Workspaces
- Page Setup
- Autosave
- 2015 View Change

The Basic Layout

Units

Squares - The king of all shapes

- How to draw
- Modes
- The Magic of Tab

Object Information Palette

Circles - Queen of all shapes

Misc 2D Objects

2D Deform

Rotation

- Tool Use
- By Rotate

Mirror

- Tool Use
- By Menu

Duplication

- Copy, Cut, Paste, Paste in Place
- Move by Points Duplication

Snapping

- Standard Layout
- In Depth Discussion with Examples

Moving Objects

- By Object Info
- By Move

Sending in the 2D world

**Exercise** - 100mm Squares and Circles

Add Surface

Clip Surface

Intersect Surface

Polygons vs Polyline

When and where to trace a shape

**Exercise (Optional)** - Tracing Animals

**Lunch**

## Day 1 - Afternoon

Layers vs Classes (the great debate)  
Layer Scale (1:1 vs 1:Anything)  
Categories  
Class Generic Styles  
Navigating Layers and Classes

The Navigation Panel  
Saved Views

Unified View

Attributed Panel

- Pen Type
- Pen Colour
- Fill Type
- Fill Colour
- Opacity
- Headers and Tails

Extrusion - Moving away from the plane and boring.

Looking around in 3D

**Exercise** - Making Boxes: Relationships

Moving In 3D

Rotation 3D

Mirror 3D

The hazards of Inaccuracy: 3D Peril

Snapping in the 3D World

Discussion: Why lines are the Devil

Add Solid

Subtract Solid

Intersect Solid

**Exercise** - Mini Block Puzzles: Cut Away Life

## Day 2 - Morning

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| <p>Recap Day 1</p> <p>Advanced 2D</p> <ul style="list-style-type: none"><li>• Fillet Edge</li><li>• Chamfer Edge</li><li>• Offset tool</li></ul> <p>3D Oddities</p> <ul style="list-style-type: none"><li>• Sphere</li><li>• Hemisphere</li><li>• Cone</li></ul> <p>Advanced 3D</p> <ul style="list-style-type: none"><li>• Extrude Along a Path</li><li>• Tapered Extrude</li><li>• Sweep</li><li>• Lofting</li><li>• Fillet Edge</li><li>• Chamfer Edge</li><li>• Shell</li></ul> <p>NURBS</p> <p><b>Exercise</b> - Building Blocks: Lego 101</p> <p><b>Lunch</b></p> | <p>Building Shell:</p> <ul style="list-style-type: none"><li>Walls</li><li>Doors</li><li>Windows</li><li>Slabs</li><li>Roof</li><li>Stairs</li></ul> <p>The Resource Browser</p> <p>Making an using Symbols 2D vs 3D</p> <p>Rendering and Presentation Styles</p> <ul style="list-style-type: none"><li>• Saved Views</li><li>• Hidden Line</li><li>• Dashed Hidden Line</li><li>• Examples of Use</li><li>• OpenGL: The God or Rendering</li><li>• Final Quality vs Fast Quality</li></ul> <p>Event Goodies:</p> <ul style="list-style-type: none"><li>• Seating arrangements</li><li>• Stage Design</li><li>• Lecterns</li></ul> <p><b>Exercise</b> - Arts Centre Drawings (First Look)</p> <p><b>Exercise</b> - Savoy Example Building</p> |
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## Day 3 - Morning

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| Recap Day 1 & 2   |
| <b>Exercise</b> - Building a Garage   |
| Recap on Layers<br>Design Layers vs Sheet Layers  |
| Paper Space<br>Sizes and Printing   |
| Borders<br>Title Blocks (Basic Intro)   |
| Viewports <ul style="list-style-type: none"><li>• Standard Style</li><li>• Section Viewports</li><li>• Detail Viewports</li><li>• Multiple Viewports</li><br/><li>• Rendering in Viewports</li><li>• Updating Viewports</li><br/><li>• Editing</li><li>• Cropping</li><li>• Annotations<ul style="list-style-type: none"><li>▶ Drawing Labels</li><li>▶ Generals Notes vs Text</li><li>▶ Callouts</li><li>▶ Text Presets</li><li>▶ Dimensioning<ul style="list-style-type: none"><li>- Constrained</li><li>- Unconstrained</li><li>- Chained Dims</li></ul></li></ul></li></ul> |
| Discussion: Annotations on the Viewport vs Design Layer Annotations   |
| Discussion: Line Weight<br>Options: Zoom Line Thickness   |
| Image Props   |
| Importing Plans <ul style="list-style-type: none"><li>• DWG</li><li>• PDF</li><li>• JPEG/BMP/PNG</li></ul>  |
| <b>Lunch</b>  |

## Day 3 - Afternoon

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| LED Screens<br>Projectors - Lens and Blend Calculations   |
| Stage Building<br>Components<br>Interactive vs DIY  |
| Truss (and Braceworks) <ul style="list-style-type: none"><li>• Truss Tool</li><li>• Truss Symbols</li><li>• Hybrid Truss Objects</li></ul>  |
| Lighting<br><br>Light Position Objects<br>The Lighting Library<br>Lighting Instruments<br><br>Editing Fields/Custom Data<br><br>Creating a Custom Lamp<br>Focus Points<br><br>Instrument Summary - Savvy Symbols                    |
| Speakers<br><br>Intros and Example Layouts<br>Array Options   |
| <b>Exercise</b> - Savoy (Second Look)   |
| Perspective   |
| Walkthroughs<br>Orbital Animations<br>Animation works - Mention<br>Cinema4D - Mention<br>AR Demo  |
| <b>Time Permitting Items</b>  |
| Worksheets<br>Records<br>Fields<br>Formula  |
| Templates <ul style="list-style-type: none"><li>• How to create</li><li>• How to load</li><li>• Design Your Own Title Block<ul style="list-style-type: none"><li>- Basic 101</li><li>- VAA Advanced Title Block</li></ul></li></ul> |
| Project Assistance - DIY  |